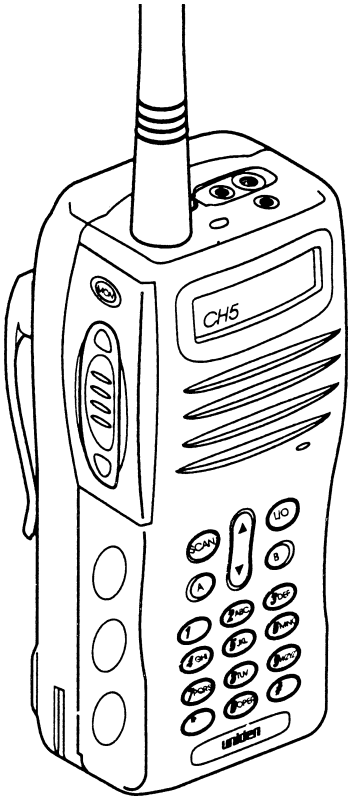
uniden®

SPH 255DT
SPU 554KT

Two-Way FM Transceiver



RELM

WIRELESS CORPORATION

7100 Technology Drive
West Melbourne, FL 32904

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OMSPH255DT

uniden®

Operating Guide

RELM WIRELESS CORP.
7100 Technology Drive
West Melbourne, FL 32904

OMSPH255DT

Safety Information

Through the provisions of the Occupational Safety and Health Act (OSHA) of 1970, the United States Department of Labor has established an electromagnetic safety standard which applies to the use of two-way radio equipment. The proper use of this transceiver will result in exposure below the OSHA limit.

The following precautions shall be observed:

- **DO NOT** operate the transceiver of any radio equipment with the antenna touching, or close to, the eyes, faces, or exposed body parts.
- **DO NOT** operate the transmitter of any radio equipment unless all the Radio Frequency (RF) connectors are secure and any open connectors are properly terminated.
- **DO NOT** operate the transmitter of any radio equipment near electrical blasting caps or in an explosive environment.
- **DO NOT** let children operate any transmitter-equipped radio equipment.

Have your radio equipment installed and serviced by a qualified technician.

Rechargeable Nickel-Cadmium Battery Pack Warning

This radio contains a Rechargeable Nickel-Cadmium Battery Pack. Cadmium is a chemical known to the State of California to cause cancer. The Nickel-Cadmium Battery Pack contained in this radio may explode if disposed of in a fire.

Do not short circuit this Nickel-Cadmium Battery Pack.

Do not charge the Rechargeable Nickel-Cadmium Battery Pack except with the recommended chargers.

Rechargeable Nickel-Cadmium Battery Packs Must Be Recycled or Disposed of Properly!

Residents of Minnesota should contact 1-800-225-PRBA for information concerning reclamation and disposal of Rechargeable Nickel-Cadmium Battery Packs. Residents outside of Minnesota should contact their local authorities for information concerning reclamation and disposal of Rechargeable Nickel-Cadmium Battery Packs.

Caution: RELM does not represent this radio to be waterproof. Do not use the radio in damp or high-moisture environments.

Two-year Limited Warranty

WARRANTOR: RELM Wireless Corporation ("RELM" or "Warrantor").

ELEMENTS OF WARRANTY: RELM Wireless Corporation warrants to the purchaser that all new Radio equipment of RELM's manufacture shall be free of defects in material and workmanship. Equipment and accessory items not manufactured by RELM carry the standard warranty of the manufacturer thereof.

WARRANTY DURATION: The warranty period for all parts is two (2) years. The warranty period shall commence upon installation of the equipment or two (2) months from the date of shipment from the factory, whichever comes first.

The warranty shall terminate and be of no further effect two (2) years from its origin or at the time the Product is (a) damaged or not maintained as reasonable, (b) modified, (c) improperly installed, (d) is repaired by someone other than Warrantor or Authorized Warranty Repair Station for a defect or malfunction covered by this Warranty, or (e) used in a manner or purpose for which the Product was not intended or in an environmental condition for which the Product was not intended.

STATEMENT OF REMEDY: Where permitted by law, this Warranty is in lieu of all other Warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, and no representative or person is authorized to assume for us any other liability. This warranty shall not extend to incidental or consequential damages arising from operation of Product(s) which are subject of this Warranty. Some States do not allow limitation of implied warranties so the above limitations may not be applicable. You may have rights as defined by individual State law.

WARRANTY REGISTRATION CARD: In order to facilitate the service under this Warranty, Purchaser should return the Warranty Registration Card to Warrantor. However, return of the Warranty Registration Card is not a precondition of this Warranty. This Warranty will be observed by the Warrantor whether or not the Warranty Registration Card is returned, on the condition that other evidence, satisfactory to RELM, of the date of the original installation or purchase is provided to the Warrantor.

PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY: To obtain warranty service, the Customer must return the radio properly packed, freight prepaid, to Warrantor or any Authorized Warrantor Repair Station. It will be returned freight prepaid.

Technical Support and Service

Your Uniden dealer can provide you with technical assistance and infommation. If your radio does not perfomm properly, take it to a Uniden dealer for servicing. The radio contains no user-serviceable parts. Unauthorized adjustment will void the warranty and may cause illegal radio operation. Be sure that a qualified technician services your radio equipment. When servicing the radio, use only factory-authorized replacement parts.

Specifications

Power ..... Rechargeable Battery Pack (APX1115)

Temperature Range ..... - 30°C to +60°C

Operating Frequencies
SPH 255DT ..... 146 MHz to 174 MHz
SPU 5S4KT ..... 438 MHz to 470 MHz

Nominal Dimensions
(with Battery) ..... 2.36" (W) x 1.77" (D) x 5.55" (H)

Weight (with Battery) ..... 1.08 lb.

Duty Cycle ..... 5, 5, 90 (TX, RX, STDBY)–8Hr Typical)

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Introduction

Congratulations

You now own the best value in portable radios, a Uniden professional communications radio. The **SPH 255DT** and **SPU 554KT** give you consistent, outstanding perfommance in virtually all conditions and situations.

Your **SPH 255DT** or **SPU 554KT** Two-Way FM Transceiver offers many special features. Read this Operating Guide completely to be sure you are getting the most from the radio.

Description

The **SPH 255DT** and **SPU 554KT** are 99-Channel portable Two-Way FM Transceivers. They are microprocessor-controlled, frequency-synthesized, and programmable. They are lightweight, rugged, and fit easily in your hand.

The **SPH 255DT** operates in the 146 to 174 MHz range with a maximum RF power output rating of 5 watts The **SPU 554KT** operates in the 438 to 470 MHz ranges with a maximum RF power output rating of 4 watts

Service

If your radio does not work properly, take it to a Uniden dealer for servicing. These radios contain no user serviceable parts. Unauthorized adjustments will void the warranty and may cause illegal radio operation. Make sure that a qualified technician services your radio equipment. When servicing these radios, use only factory authorized replacement parts.

Features

- **Scan Mode**—Monitors the programmed scan list. (You can temporarily lock out selected channels.)
- **External Speaker/Microphone Jacks**—Allows use of an optional speaker, microphone, or headset for improved operation in special situations.

  Note: *With the headset option, you can activate the VOX feature for hands-free transmit/receive operation. See Using VOX" on Page 14.*
- Channel/Function LCD
- Channel Monitor Switch
- Battery Low Indicator
- DTMF Keypad
- User-Programmable Channel Scan List
- TXJBusy LED

Using VOX

The VOX feature automatically switches the radio between the transmit and receive modes when you speak into the microphone. This feature may be programmed into your radio by your Dealer. You must also have the optional headset plugged into the radio.

When you talk, the radio switches to the transmit (talk) mode. When you stop talking, it switches back to the receive mode.

Optional Accessories & Replacement Parts

The following Optional Accessories and Replacement Parts are available from your Uniden Dealer.

- Rechargeable Battery Pack (APX1115)
- Battery Chargers: Desktop Rapid Charger (APX140 base and APX140PS adapter) Desktop Standard Charger (APX141 base and APX141 PS adapter)
- APX155 Charging Cup (for use with APX140 or APX141)
- External Microphone with Speaker
- Headset (necessary for VOX operation)
- Operating Guide (OMSPH255DT)
- SPH255DT Antenna (APX151-6 or 152-6) See your Dealer for exact model
- SPU554KT Antenna (APX452-6)

Special Features

Battery Save

In Battery Save or “sleep” mode, the radio receives only when it detects an RF carrier. This helps reduce battery power consumption.

Function Tones

The radio is equipped with several tones to indicate error conditions or confirm functions have occurred.

Power On Tone - a short high pitch tone indicating the radio has powered up normally.

Malfunction Tone - a long low tone at power on indicating a radio problem. If it persists, return the radio to your Uniden dealer for repair.

Low Battery Tone - two long low tones indicating the battery must be recharged.

Function Enable Tone - a very short high pitch tone indicating the key function has been turned on.

Function Disable Tone - two short high tones indicating that the key function has been turned off.

No Function Tone - four tones alternating low-high-low-high, indicating the key function is not allowed.

Down Channel Tone - a short, low tone occurring at every down channel change.

PTT Error Tone - a low tone sounding as long as the PTT is held, if transmit is not allowed on the selected channel.

BCLO Tone - alternating high/low tones sounding as long as PTT is held if the channel is busy. TOT Caution Tone - short high pitch beeps sounding every second, beginning 5 seconds before transmitter shutoff occurs.

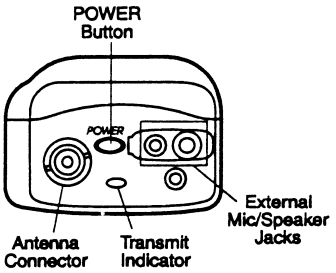
TOT Error Tone - a high pitch tone sounding as long as the PTT is held, after TOT has occurred.

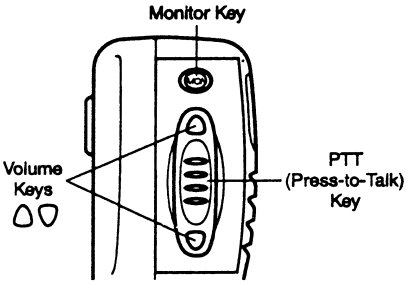
Priority Tone - a short high pitch beep sounding during scan when the Priority Channel is received and when the programmed Priority Channel is selected.

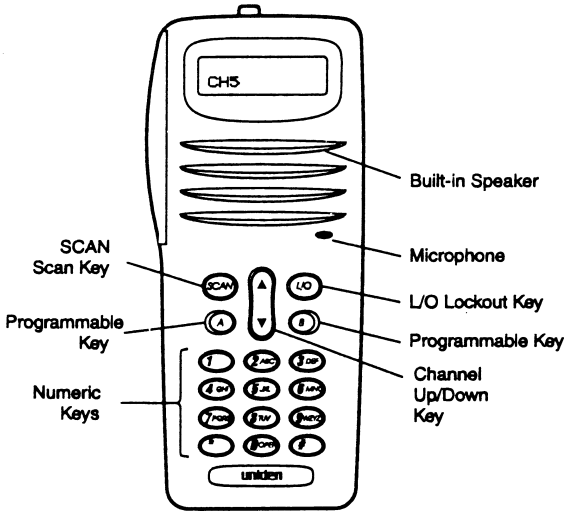
Two-Tone Decode Tone - four short high pitch beeps sounding when a two tone signal is decoded, if programmed for tone-only decode indication. The beeps recur until a key is pressed.

Two-Tone Decode (with Voice) Tone - Two short high pitch beeps sounding when a two tone signal is decoded if programmed for tone and voice indication.

Controls and Functions







Programmable Features

The channel frequencies and options (such as VOX, Tone-Coded channels, and scan channels) have been pre-programmed into your radio by your Uniden Dealer. Check with your Dealer for the specific features in your radio.

- Scan Type
- Scan Dropout Delay
- Transmitter Time Out Timer
- Battery Save
- Busy Channel Lockout
- Function Beep
- CTCS S/DCS/2-Tone Rece ivelT ran sm it Codes
- TX Power High/Low
- A/B Key Functions
- VOX Sensitivity and Hang Time

TAC Function - allows “talking around” the repeater by shifting the transmit frequency to the channel's receive frequency. Pressing the key will cause the Enable Tone to sound and the LCD “TAC” indicator to begin blinking. Press the key again to disable the TAC function. The TAC function is automatically disabled when the channel is changed or the radio is powered off.

TX HULO Power - allows channels programmed for high power to be switched to low power. Activate by pressing and holding the key for at least 1.5 seconds. The LCD “LOW POWER” display will appear and the tone will sound. If pressed on channels already programmed for low power, an error tone will sound. To restore high power operation, press and hold again for 1.5 seconds. The LCD “HIGH POWER” display will appear and the corresponding tone will sound.

VOX Disable/Enable - allows disabling the VOX mode on channels programmed for automatic VOX operation. On those channels, pressing the key will change the LCD VOX display from continuous to blinking, sound the Disable Tone and cause VOX operation to stop. Press the key again to restore nommal VOX operation.

Home Channel Select - allows one-touch selection of a pre-programmed channel. Both the A and B keys may be programmed for this function.

TX Disable - inhibits the transmit function when active. To disable transmit, press and hold the key for at least 1.5 seconds. The LCD “TX DISABLE” display appears and the Disable Tone sounds. Transmit on all channels will be inhibited when activated. Press and hold again for at least 1.5 seconds to enable normal transmit operation.

CTCSS/DCS Disable/Enable - disables the CTCSS/DCS coded squelch programmed for the selected channel. To do so, press and hold the key for at least 1.5 seconds. The LCD “S_CODE OFF” display will appear and the Disable Tone will sound. Press the key again to restore the programmed coded squelch operation. The programmed operation is automatically restored when the channel is changed or the radio is powered off.

DTMF Keypad Operation

The DTMF keypad may be programmed to allow access to the telephone network. DTMF operation is possible only on channels designated for that function. Pressing PTT will cause the LCD MDTMF INPUT display to appear for 3 seconds if the selected channel is programmed for DTMF operation. The first DTMF digit must be pressed within the 3 second period. After pressing the first digit, the PTT may be released and transmit will continue as long as extra digits are pressed within the programmed “hang time.”

SELECTED CHANNEL - If programmed for user selection, the current selected channel will be the transmit channel, which may be changed at any time during scan operation. You may select the desired transmit channel by use of the Channel Up or Down keys, the A/B keys (if programmed for Home Channel Select function) or you may use the 0-9 keys on the keypad for direct channel selection (see Changing Channels).

Two-Tone Decode Operation

Any channel may be programmed for Two-Tone Decode operation. When any such channel is selected, the radio remains muted until someone in your system calls you. When a call is received, the LCD CALL indicator appears, the TransmiVReceive indicator blinks orange, the two-tone decode alert tones sound (see Function Tone section), and the caller's voice may be heard, depending on programming. If programmed for no voice alert, press the Monitor key to unmute the receiver and hear the call orange LED may be turned off by pressing any key. The LCD CALL indication is turned off by pressing the PTT, Monitor or SCAN key. After the call is completed, the radio can be readied for the next call by pressing the Monitor key or by changing the channel, then returning to the two-tone channel.

Transmit Time Out Timer

Continuous transmission time may be limited by programming selection. Five seconds before the time-out, caution beeps will sound every second. After five seconds, transmission will stop and an error tone will sound as long as the PTT is held. When you release the PTT button, the Time Out Timer is reset.

Busy Channel Lockout (BCLO)

The radio may be programmed to inhibit transmit while a signal is being received. If so, an error tone will sound if PTT is pressed while the channel is busy. BCLO may also be programmed to allow transmit to occur if you are receiving a signal from someone in your system, allowing you to maintain control of a repeater during your conversation.

A/B Key Functions

The A and B keys can be programmed for any of several functions as described below. If programmed for no function, pressing the keys will only cause the error tone to sound. Check with your dealer or equipment provider to determine the programmed function of these keys.

Key Lock - prohibits activation of SCAN, ▲, ▼, L/0 and the DTMF keys. When pressed, the LCD displays “K_LOCK ON” for 1.5 seconds and the Enable Tone sounds. To restore nommal operation of all keys, press and hold the key for at least 1.5 seconds. The LCD will display “K_LOCK OFF” and the Disable Tone will sound.

Unpacking

The following should be included with your two-way radio:

- Transceiver Unit
- Antenna
- Belt Clip
- Operating Guide (OMSPH255DT)
- Nickel-Cadmium Rechargeable Battery Pack (APX1115)

If any of these items are missing from the box, contact your Uniden Dealer for help.

FCC Licensing
Before you transmit with your radio, you must have the proper license issued by the Federal Communications Commission (FCC). Your Uniden Dealer can tell you what is required, and can help you with all your future communication needs.

Features, specifications, and availability of optional accessories are all subject to change without notice.

Getting Started

Before you can use your radio, you must install and charge the battery and install the antenna as follows.

Charging the Battery

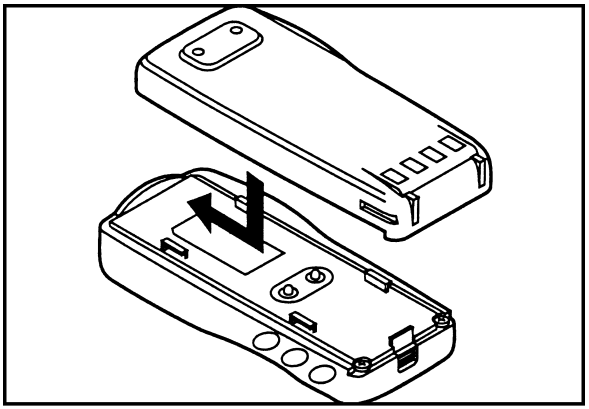
Your radio is powered by a specially-designed, nickel-cadmium battery. You should fully charge the battery before operating the radio. Only use one of the following chargers.

- Model APX140 Desktop Standard Charger
- Model APX141 Desktop Rapid Charger

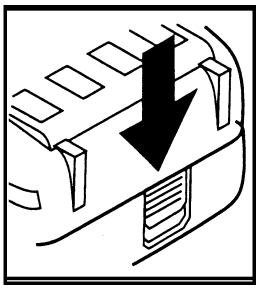
Follow the charging instructions that come with the charger. Also, be sure to observe the following waming/safety infommation for nickel-cadmium batteries (on the inside front cover of this Operating Guide).

Attaching/Removing the Battery

To attach the battery to the radio, align the slots in the battery with the hooks on the radio as shown. Then, slide the battery toward the top of the radio until it locks into place.



To remove the battery from the radio, push the battery release lever toward the front of the radio and slide the battery toward the bottom of the radio.



Modify the channel Scan List with Channel Lock Out

Deleting channels (from the channel scan list) increases the scanning speed.

Use ▲ or ▼ to select the desired channel and press (L/0) The channel display increments to the next higher channel TheLCD UO indicator appears when the locked out channel is reselected.

To remove the lock-out condition from a channel, manually select the channel and press (L/0) again.

Nuisance channels may also be deleted while scan is active, by pressing (L/0) while receiving the channel or during the delay after the signal is gone but before scan resumes.

Drop Out Delay

While scanning, the radio stops at a busy channel and receives a transmission. When the received call is over, it resumes scanning after a short delay.

Transmit

1. Use ▲ or ▼ to select the desired channel.
2. Before you transmit, press (MON) and listen for activity on the channel. Also check the Transmit/ Receive Indicator. If it is blinking RED, the channel is locked out, and transmit may be inhibited, depending on programming.
3. When the channel is clear, press the **PTT** switch to transmit. The TX **LED** lights RED when you transmit. Hold the radio with the microphone approximately two inches in front of your mouth with the antenna at approximately a 45-degree angle away from your head. Speak in a clear, normal, conversational voice.
4. When you are through speaking, release the **PTT** switch and listen for an answer.

Transmit During Scan

Depending on how your radio is programmed, you will transmit on a particular channel during the scan function.

TALK BACK- If programmed for Talk Back operation, transmit will always occur on the last received channel, even if scan has resumed when the PTT button is pressed.

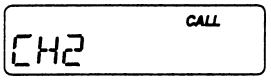
PROGRAMMED CHANNEL- If a specific channel has been programmed, transmit will always occur on that channel.

2. **A/B Key Selection** - Either or both of the A and B keys may be programmed for Home Channel selection. Press the programmed key (A) or (B) to instantly select the programmed Home Channel.

3. **Direct Channel Selection** - The numeric keypad 0-9 keys may be used to directly select the desired channel. Press one or two digits and the Channel Up key (s) to select a channel. For example, press (4GHI) (7PQRS)s to select channel **47**. If ▲ is not pressed within 5 seconds after pressing the digit keys, the entered digits will be ignored. During the 5 second period, the ▼ key may be used to clear the entered digits from the display.

Receive

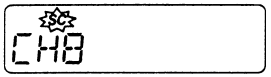
When a call is received, the TransmiVReceive Indicator blinks RED. If the signal is coded with CTCSS, DCS, or 2-Tone Code, the CALL indicator appears on the LCD.



Channel Scan

In the scan mode, the radio alternately monitors each channel until it receives a call. You can scan all channels in the programmed scan list, or you can modify the scan list by locking out individual channels from being scanned.

1. Press (SCAN) to begin scanning. The LCD SC indicator begins to flash.



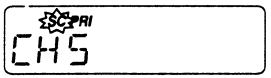
2. The radio stops on any channel that receives a call, the LCD SC indicator is displayed continuously and you hear the caller. When the transmission stops, the radio resumes scanning after a brief delay.

3. To disable scanning, press (SCAN)

Dual Watch

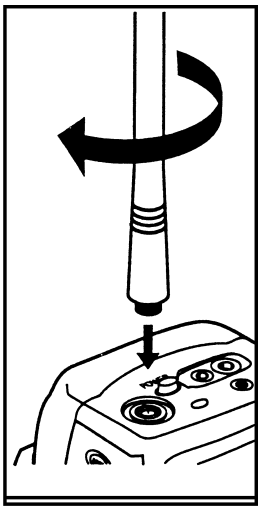
If your radio has been programmed for Priority Channel operation, the radio will sample the Priority Channel between any other receiving channel during Scan Mode. This is usually the channel you use for most of your communications. (Depending on programming, the Priority Channel may be pre-programmed or it may be the channel you select during scan.)

During scan the LCD PRI indicator will be displayed continuously when the Priority Channel is being received.



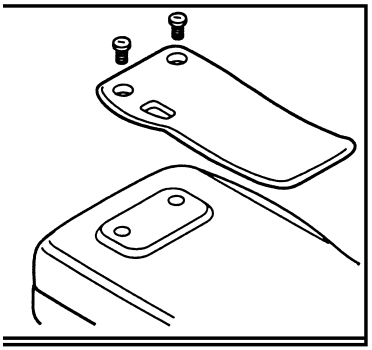
Installing the Antenna

To install the antenna, align it with the antenna connector on the top of the radio and turn it clockwise until it seats snugly against the radio.



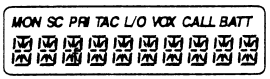
Attaching the Belt Clip

Attach the supplied belt clip as shown.



Operation

LCD Display



The liquid crystal display (LCD) has 10 characters to designate the selected channel by number or name. Above the channel designation area is a row of indicators that show which features are enabled.

MON *Monitor function is enabled*

SC *Scanning in operation*

PRI *Priority Channel*

TAC *Repeater talkaround is enabled*

UO *Channel removed from Scan List*

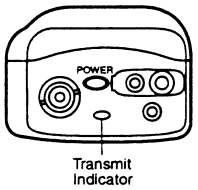
VOX *Voice-Operated Transmit activated*

CALL *Call Received with CTCSS/DCS/2-Tone Coding*

BATT *Blinks when the Battery Power is low*

Transmit/Receive Indicator

The TransmiVReceive Indicator shows different colors depending upon the operation:



Transmit: *Steady RED*

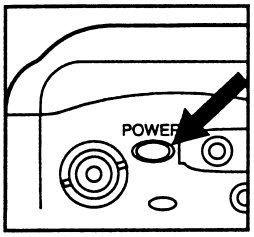
Channel Busy: *Blinking RED*

2-Tone-Coded Signal: *Blinking ORANGE*

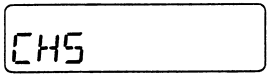
Monitor ON: *Steady ORANGE for 4 seconds*

Applying Power and Setting the Volume

1. Turn the radio on by pressing the (POWER) button to the in position.

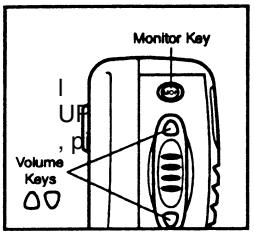


The display lights and shows the last-selected channel designation.



Note: *To turn the radio off, release the 63 button to the out position.*

2. Press the Monitor Key ((MON))
Adjust the speaker volume to a comfortable level by pressing the Volume Up ( ) or Volume Down ( ) Key



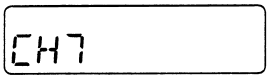
Note: *If you hold down either of the keys, the volume steps rapidly in the selected direction.*

3. Press ((MON)) again.

Note: *While Monitor is ON, your radio may detect (on the selected channel) transmissions from stations outside your own system, as well as transmissions within your system.*

Changing Channels

1. **Up/Down Key Selection**- Press the Channel Up or Channel down key (▲ or ▼) to display the desired channel.



An up-channel or down-channel tone sounds with each channel change. If you press and hold either key, the radio changes channels rapidly.

(If programmed with a Estops channel changes will stop when the highest or lowest channel number has been reached.)